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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,262	08/30/2001	Tohru Ishitani	1743/193	8263
23838	7590	11/28/2005	EXAMINER	
KENYON & KENYON 1500 K STREET NW SUITE 700 WASHINGTON, DC 20005			NGUYEN, LAM S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,262

Applicant(s)

ISHITANI ET AL.

Examiner

LAM S. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/16/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/16/2005 has been entered.

Claim Objections

Claim 5 is objected to because of the following informalities "αb > αb" (lines 12-13). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakibayashi et al. (US 5866905) in view of Hosoki et al. (US 3714422).

Kakibayshi et al. discloses a scanning charged-particle microscope (FIG. 18) having:

- a charged-particle source (FIG. 18, element 20),
- a lens for focusing the charged-particle beam emitted from said charged-particle source (FIG. 18, element 21), and
- a scanning deflector (FIG. 18, element 22) for scanning said charged-particle

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beam in two-dimensional form on a sample (*FIG. 18, element 24*),

wherein said scanning charged-particle microscope includes a passage aperture for limiting the passage of the charged-particle beam having a member for limiting the passage of the charged-particle beam provided at least in the center of said passage aperture (*FIG. 20, element 409*) **(Referring to claim 1)**.

Kakibayshi et al. does not disclose wherein the passage/annular aperture is positioned on the orbit of the charged-particle beam and located between said charged-particle source and said scanning deflector, wherein the member having a limiting part which limits the charged particle beam having the half-opening angle being from zero degrees to α_b degrees and allows the charged-particle beam having the half opening angle being from α_b to α_a degrees to pass the member, wherein said lens focusing the charged particle beam such that a plurality of differential parts of the charged particle beam passing through the passage aperture converges one point on the sample on a half-opening angle which defines an irradiation angle of the charged particle beam against an optical axis of the charged particle beam, wherein said scanning deflector scanning the converged charged particle beam,, wherein an image of said sample is obtained by scanning said charged-particle beam, which is cut off the half opening angle being from α_b to α_a degrees **(Referring to claims 1, 5, 8, 12)**.

Hosoki et al. discloses an electron microscope having a charged-particle source (*FIG. 1, element 1*), a scanning deflector (*FIG. 6, element 5*), and an annular/passage aperture (*FIG. 6, element 10*) positioned on an orbit of a charged-particle beam (*FIG. 4, element e*) and located between the charged-particle source and the scanning deflector (*FIGs. 1, 6*) to limit the passage of the electron beam to a sample (*FIG. 6, element 6*), wherein after the electron beam has passed

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through the annular/passage aperture (*FIG. 6, element 10*), a plurality of different parts, each having a half opening from α_b to α_a degrees of the electron beam converges one point on the sample (*FIG. 6: At least two different parts of the electron beam converges at point F on the sample 6*) and deflected by the scanning deflector (*Fig. 6, element 5*) to scan the sample (*FIG. 6, element 6*), that results of forming an image of the sample on an image monitor (*FIG. 1, element 9*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the scanning charged-particle microscope disclosed by Kakibayshi et al. such that inserting the passage/annular aperture on the orbit of the charged-particle beam at a position between the charged-particle source and the scanning deflector as disclosed by Hosoki et al. The motivation of doing so would have been to enable a stereo-image of a spicemen in changing state to be observed in an easy manner as taught by Hosoki et al. (*column 1, lines 50-55*).

Kakibayshi et al. also disclose following claimed inventions:

Referring to claims 2-7: wherein the scanning charged-particle microscope is characterized in that the half-opening angle of said aperture for said charged-particle beam focused on a sample by said focusing lens has a band with respect to specific values of α_a and α_b and said band having narrower values of said half-opening angle is cut off (*column 19, line 14-51*) and a plate-like aperture body formed movably with respect to said charged-particle beam in which an annular aperture and a circular aperture are formed (*FIG. 20, element 409*).

Referring to claim 8: wherein said scanning charged-particle microscope is

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characterized in that a passage aperture for limiting the passage of the charged-particle beam is formed in two different places on the orbit thereof, and in that one of said two apertures is an annular aperture (*FIG. 20, element 409*) and the other is circular aperture (*FIG. 20, element 410*).

Referring to claim 9: wherein the scanning charged-particle microscope is characterized in that said annular aperture is formed in a plated-like body (*FIG. 21, element 409*), in that said plate-like body is also provided with a circular aperture (*FIG. 21, element 409*), and in that there is provided a movement feature for positioning the annular aperture and circular aperture on the orbit of said charged-particle beam (*FIG. 20: a corresponding movement feature moves a desired aperture in the body 409 into the orbit of the electron beam*).

Referring to claims 10, 11, 12: wherein the scanning charged-particle microscope is characterized in that said circular aperture and said annular aperture are formed in a first plate-like body and a second plate-like body respectively, in that said first plate-like body is provided with a charged-particle optical beam cutoff portion in addition to the circular aperture (*FIG. 20, element 410*) and said second plate-like body is provided with a circular aperture in addition to the annular aperture (*FIG. 20-21, element 409*), and in that both the first plate-like body and the second plate-like body are provided with a movement feature (*FIG. 20: a corresponding movement feature moves a desired annular aperture in the body 409 and a desired circular aperture in the body 410 into the orbit of the electron beam*), and the images on a sample that has been acquired with the annular and circular apertures are combined to form a new sample image (*FIG. 20*).

Response to Arguments

Applicant's arguments filed 11/16/2005 have been fully considered but they are not persuasive.

The applicant argued that Hosoki does not disclose a plurality of differential parts of the charged particle beam passing through the aperture converging one point on the sample, as required by the independent claims. The examiner disagrees with the applicant. As clearly shown in FIG. 6, Hosoki teaches that when the deflecting device 13 works, the corresponding beam portion passes through the left passage hole and converges at point F on the sample 6; when the deflecting device 14 works, the corresponding beam portion passes through the right passage hole and also converges at point F. As a result, Hosoki's disclosure reads on the claim language because both different beam portions converge (may be at **different time**) **at the same point** on the sample. In addition, since the claims do not define wherein the plurality of different parts of the charged particle beam have to converge one point on the sample **at the same time** or **simultaneously**, Hosoki's disclosure does not differ from the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
11/21/2005

Hai Pham
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PRIMARY EXAMINER